

Wee Tee State Forest
Forest Certification Management Plan
South Carolina Forestry Commission
Working Document
June 2022

Table of Contents

1.	Forest Management Planning.....	5
A.	Forest Management Plan.....	5
B.	Conversion of Forest Cover Type.....	12
C.	Conversion to Non-Forestland Use.....	12
D.	Afforestation	12
2.	Forest Health and Productivity	12
A.	Reforestation	12
B.	Use of Chemicals	13
C.	Protection and Maintenance of Forest and Soil Productivity	14
D.	Damaging Agents.....	14
E.	Improved Planting Stock.....	17
3.	Protection and Maintenance of Water Quality	17
A.	Water Quality and State BMP's.....	17
B.	Water quality and Riparian Protection Programs	18
4.	Conservation of Biological Diversity	18
A.	Biological Diversity	18
B.	Threatened and Endangered Species, Forests with Exceptional Conservation Value, Forest of Recognized Importance, and Old-growth	19
C.	Ecologically Important Sites.....	20
D.	Research, Science, Technology, Field Experience Used to Contribute to Biological Diversity	21
5.	Management of Visual Quality and Recreational Benefits	21
A.	Impact of Harvesting on Visual Quality	21
B.	Clearcut Harvest.....	21
C.	Green-up Requirement.....	21
D.	Recreation	21
6.	Protection of Special Sites	22
A.	Identify, Manage, and Protect Special Sites	22
7.	Efficient Use of Forest Resources	23
A.	Forest Harvesting Technology, In-woods manufacturing Process, Practices to Minimize Waste, and Efficient Utilization of Harvested Trees.....	23
8.	Recognize and Respect Indigenous Peoples' Rights	24
A.	Recognize and Respect Indigenous Peoples' Rights	24
B.	Confer with Affected Indigenous Peoples	24
C.	Respond to local Indigenous Peoples on Private Lands	24
9.	Climate Smart Forestry	24
A.	Identify and Address Risk to Forest and Forest Operations	24
B.	Effects Associated with Forest Operations	25
10.	Fire Resilience and Awareness.....	25
A.	Limit Susceptibility to Undesirable Impacts of Wildfire, Promote Healthy and Resilient Forest Conditions, and Support Restoration of Forest Damaged by Wildfire	26
B.	Raise Awareness of Benefits of Fire Management and Minimize Undesirable Impacts of Wildfire	26
11.	Legal and Regulatory Compliance.....	27

A.	Forestry Related Social and Environmental Laws and Regulations	27
B.	Comply with all Applicable Social Laws	27
12.	Forestry Research, Science and Technology	28
A.	Provide In-Kind Support or Funding for Forest Research.....	28
B.	Develop, Contribute to, or Use Analyses in Support of Sustainable Forestry..	28
13.	Training and Education	29
A.	Appropriate Training of Personnel and Contractors	29
B.	Foster Improvement in the Professionalism of Wood Producers	29
14.	Community Involvement in the Practice of Sustainable Forestry	30
A.	Landowner Cooperative Programs	30
B.	Public Outreach and Education.....	30
C.	Stakeholder Concerns	31
15.	Public Land Management Responsibilities	31
A.	Public Land Planning and Management Processes.....	31
16.	Communications and Public Reporting.....	31
A.	Summary Audit Report	31
B.	Annual Progress Reports.....	32
17.	Management Review and Continual Improvement.....	32
A.	Review System.....	32

1. Forest Management Planning

A. Forest Management Plan

Wee Tee State Forest (WTSF), located in Williamsburg and Georgetown Counties, consists of approximately 12,412 acres of bottomland hardwoods and mixed pine native to coastal South Carolina. The original portion of WTSF was deeded to the South Carolina Forestry Commission (SCFC) in 2003 from the Hollingsworth Funds, Inc with funds provided through the Forest Legacy Program and the North American Wetlands Conservation Act. Soil type consist of 92% Complex, 7% loam, and 1% sand. See Figure 1 for soils map. WTSF is managed to be a healthy, productive, forested ecosystem, while improving the quality of life of South Carolina through the environmental, educational, economic, and recreational benefits of active forest management.

WTSF objectives are to maintain fiscal self-sufficiency via optimization of forest products and other possible revenue streams, maintain biological sustainability, and maintain as public lands for the benefit of the state and its citizens. WTSF objectives are in line with the agency's mission to protect, promote and enhance the forest lands of South Carolina in a manner consistent with achieving the greatest good for its citizens.

WTSF practices principles of high quality multiple-use and sustained-yield forest management. Multiple use management includes enhancing timber production, fish and wildlife habitat, air and water quality, soil conservation, scenic beauty, scientific research, and recreational opportunities. This does not mean that all uses must coexist at the same time. Depending on the circumstances on different parts of the forest, one use might be dominant while other uses are subordinated. Sustained yield means assuring that the renewable resources of the forest will always be available without impairing the productivity of the land.

The state forest system, is mandated to be self-supporting, WTSF generates revenue through limited timber sales and land leases. A unique situation for our state forests is a law requiring that we give 25% of our gross income to the school district in which the revenue was generated. Therefore, within the scope of our management approach, and our attempt to provide the people of South Carolina with the greatest and best use of the forest.

WTSF encompasses over 12,400 acres of productive forest land. Most of the land base is dominated by 92% of bottomland hardwoods, pine/pine-hardwood comprising 6% of the forest and non-forested areas making up the remaining 2%. WTSF's dominant pine type is loblolly pine comprising nearly 700 acres. Swamp bottomland hardwood is the dominant hardwood type, with 11,300 productive acres located exclusively in the Santee River floodplain. See figure 2 for forest cover type map.

WTSF is managed as one contiguous block, and stands are delineated at an appropriate scale for management (Figure 3). Data for these stands is maintained in a GIS database, which contains all relevant stand level data and all other environmental databases that includes information on roads, soils, hydrology, threatened and endangered species, invasive species, elevation, and other data as needed. Data is obtained from many different state and federal agencies, or developed in-house where applicable.

WTSF began utilizing a harvest scheduling model for timber management in 2007. Designed under contract by Forsight Resources, development of the model and required updated inventory began in 2004, with initial implementation beginning in Fiscal Year 2008. In 2014, WTSF switched contractors and started using ForesTech International to improve inventory and harvest schedule modeling. ForesTech receives inventory data collected by WTSF staff, runs growth and yield analysis using SiMS_2009 products, and produces an allowable harvest schedule based on several assumptions and constraints developed by WTSF. These constraints consists of cash flow, harvest size, adjacency harvest, and harvest triggers based on basal area and age (Figure 4). While areas for harvesting are recommended through spatial modeling, on-the-ground implementation of that harvesting, as well as other management operations.

Our current forest inventory program covers two stand types: 0-10 years old and 11+ years old. The SCFC implements both fixed area and variable radius plots in this cruise. Sampling intensity is determined by stand acres, and plot type is determined by cover type. The objective for cruisers will be to provide a stand level assessment and to collect and record accurate plot and tree level data. Sampling intensity of this project follows an overall criteria of roughly a 5x5 chain plot spacing in stands to accomplish an overall intensity of 1 plot per 4 acres (minimum of 5 plots per stand). This inventory method allows us to account for changes in growth due to productivity increases and decreases. This will allow for us to input updated inventory data into our harvest model runs, thus allowing for better growth and yield values. TCruise software is utilized for data collection and evaluation.

Figure 5, shows that our allowable harvest are not exceeding our overall growth. Figure 6, shows that our actual harvested tons are not exceeding our allowable harvest tons. These allowable harvest values are calculated when stands are scheduled to be harvest and checked against inventory data to make sure sustainability is continual.

In order to keep up with all the different management practices, we have a number of in house documentation forms used to tract management activities. These forms are updated when needed and stored on our agency website.

Figure 1. Wee Tee State Forest Soils Map

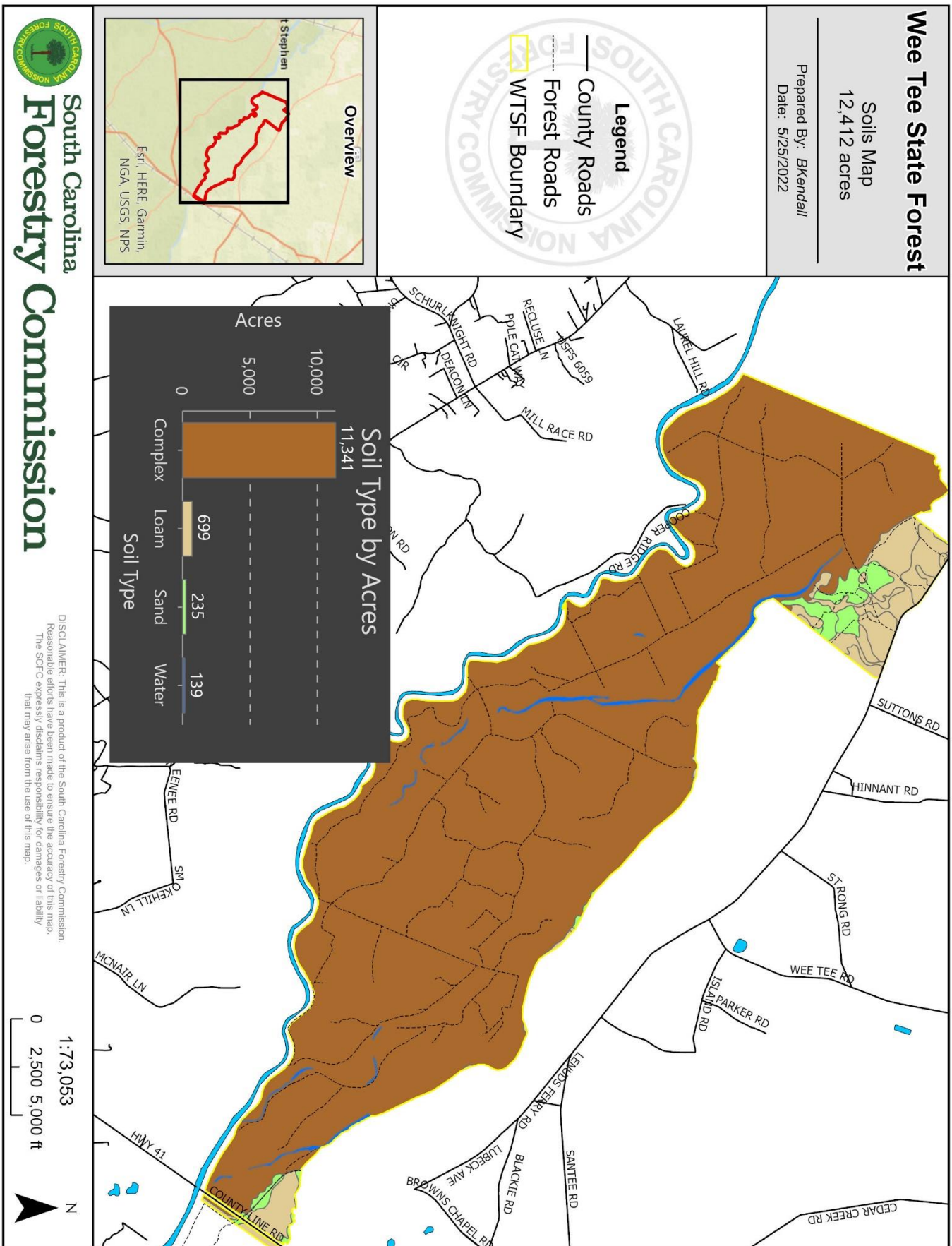


Figure 2. Wee Tee State Forest Cover Type

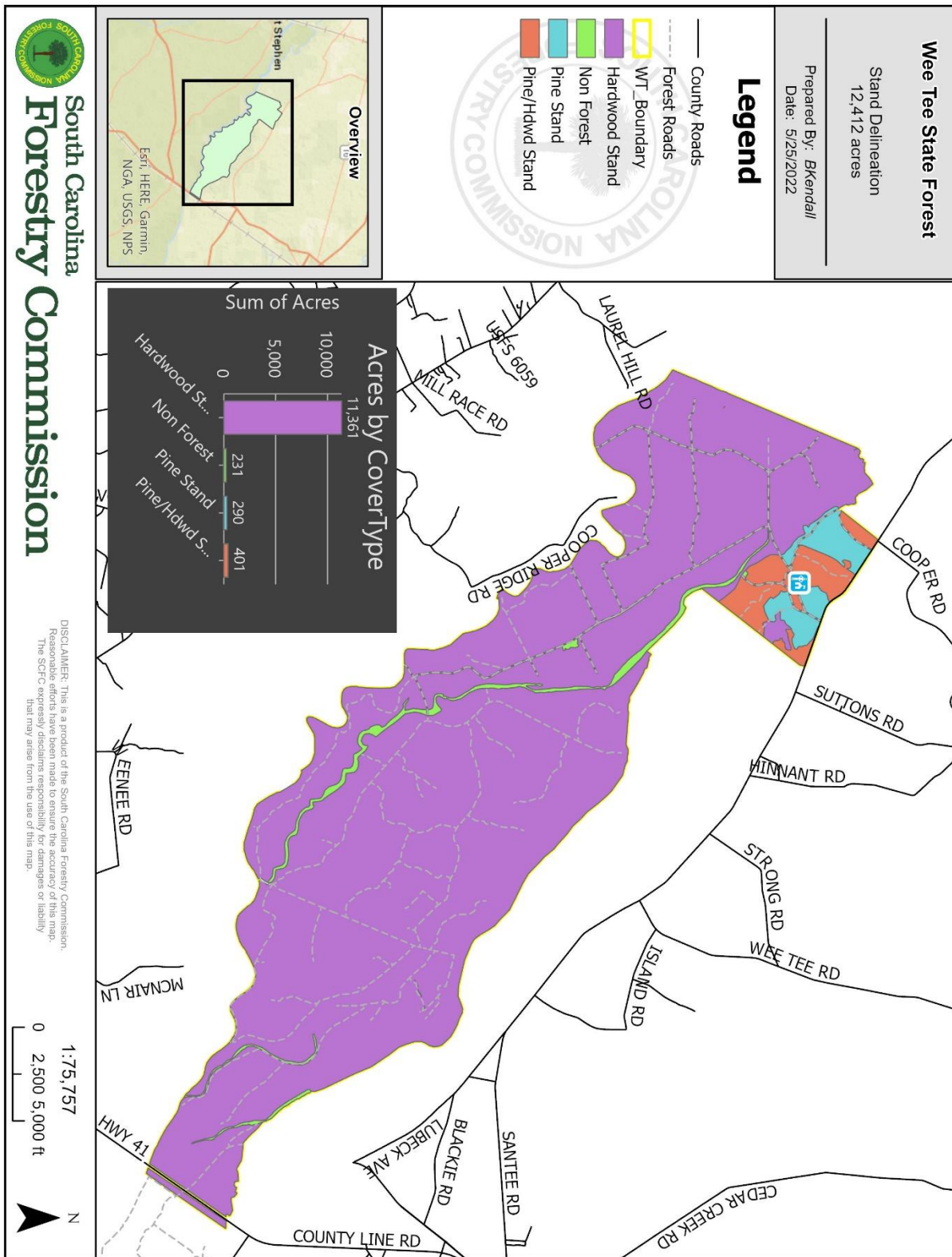


Figure 3. Wee Tee State Forest Stand Delineation

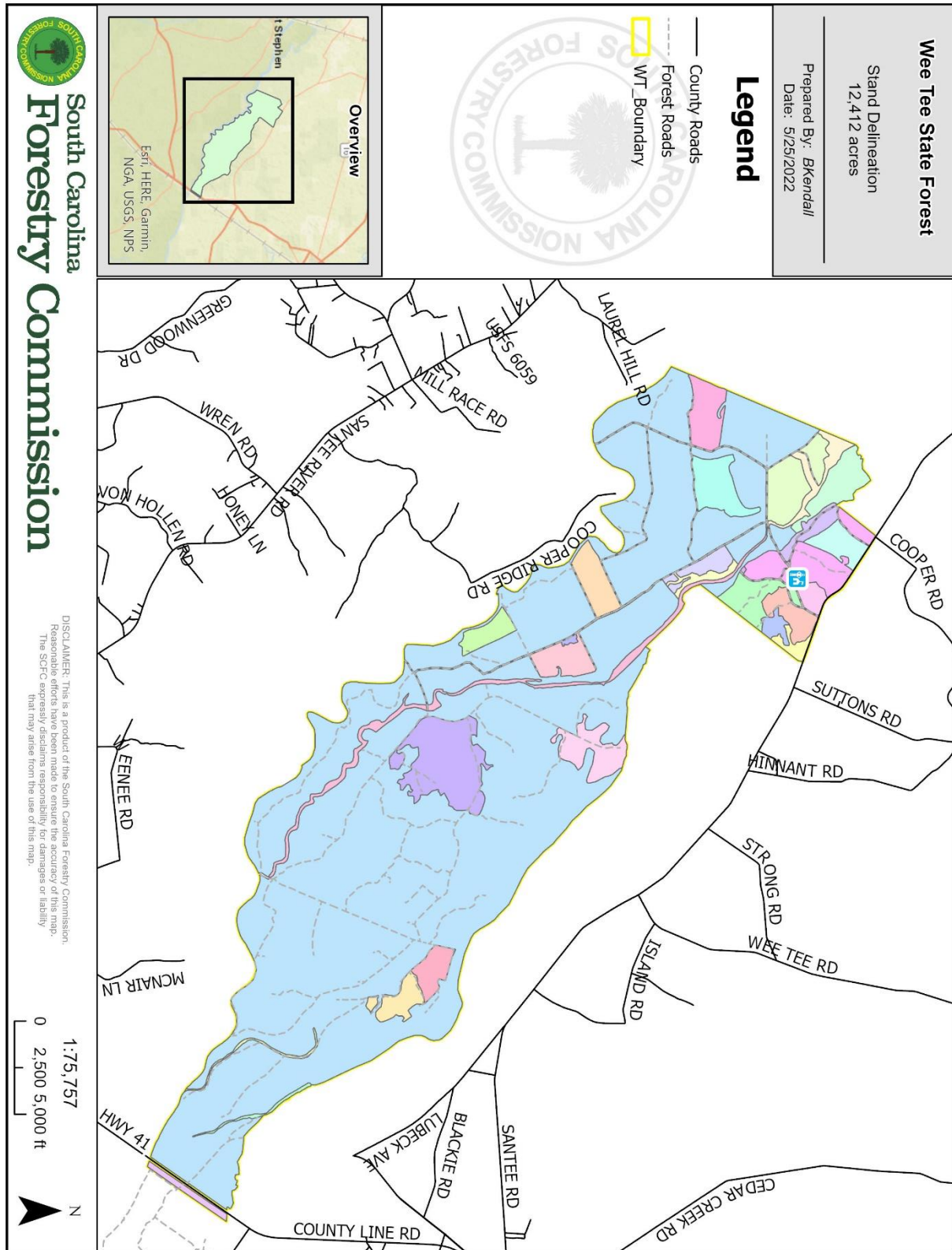


Figure 4. Harvest Schedule Assumptions and Constraints

Loblolly Pine

1st Thin

- Minimum harvest tons/acre: 25
- BA thinning target: 110 ft²/acre
- BA residual post-harvest: 70 – 80 ft²/acre
- Products: All products available if specifications are met

2nd Thin

- Minimum harvest tons/acre: 25
- BA thinning target: 90 ft²/acre
- BA residual post-harvest: 60 ft²/acre
- Products: All products available if specifications are met

Other Thin

- Minimum harvest tons/acre: 20
- BA thinning target: 90ft²/acre
- BA residual post-harvest: 70ft²/acre
- Products: All products available if specifications are met

Final Harvest

- Minimum harvest tons/acre: 25
- Minimum Age: 40 years
- Maximum Age: 60 years
- Max Size: 100 acres
- Products: All products available if specifications are met

Bottomland Hardwood

- Minimum Age: 80 years
- Maximum Age: 100 years
- Max Size: 100 acres
- Products: All products available if specifications are met

Figure 5. Wee Tee State Forest Growth Compared to Allowable Harvest

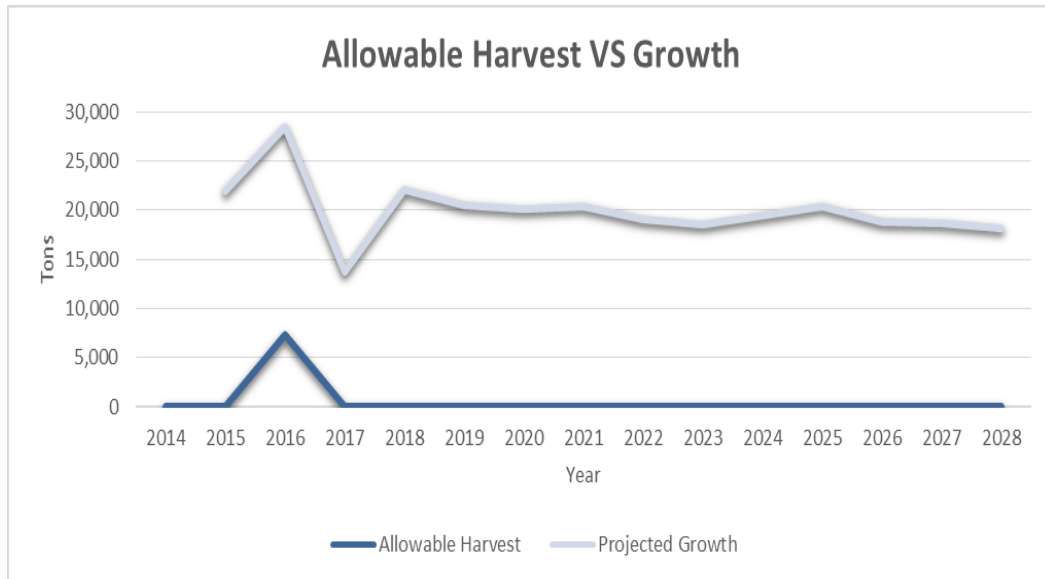
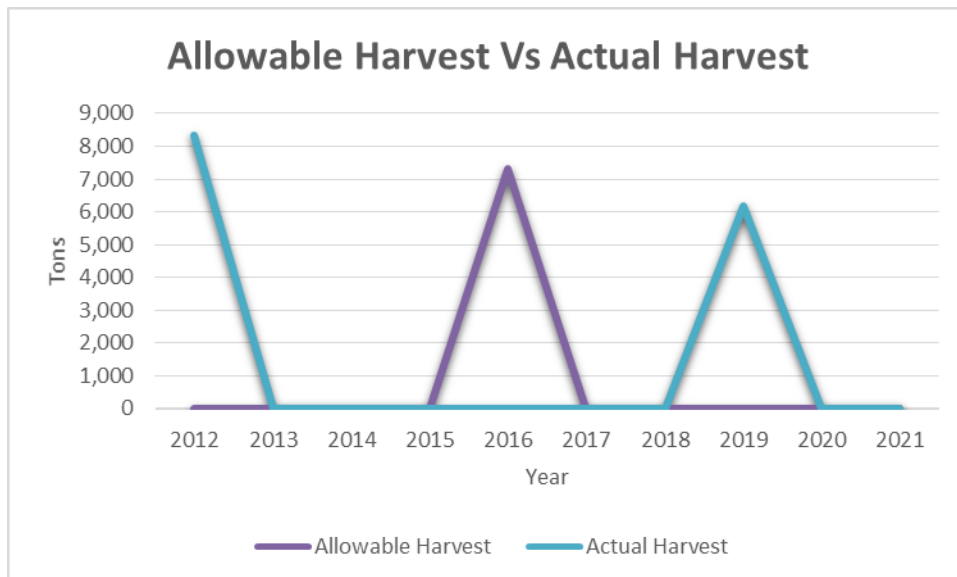


Figure 6. Wee Tee State Forest Allowable Harvest Compared to Actual Harvest



B. Conversion of Forest Cover Type

WTSF only considers converting forest cover type to another if the land is better suited for a different cover type and no adverse impacts on forest with exceptional conservation value, old growth forests, forest critical to threatened and endangered species, or special sites are effected. For the most part, whatever is in place currently is what the stand will be replaced with.

Some exceptions include stands previously planted in pine will be evaluated using soil maps and historical range maps to determine the desired species of pine to be planted based on long term goals that supports and maintains native forest cover types.

C. Conversion to Non-Forestland Use

WTSF has no intentions of converting forestland to non-forestland outside of the occasional establishment of wildlife food plots, forest access roads, recreational trails, etc. If a very rare and unique circumstance would occur we would withdraw the acreage from certification immediately.

D. Afforestation

Any area thought to be in consideration for afforestation will be given great consideration for surrounding forest cover type and activities. Sites will be evaluated for potential species compatibility and no negative impacts to natural communities, due to afforestation of site. WTSF will examine soil types, productivity, and native ranges to determine appropriate species for planting.

For the most part, WTSF only looks to afforest sites that are currently in agricultural production or wildlife food plot/opening conditions. Other afforestation may include old abandoned forest sites.

2. Forest Health and Productivity

A. Reforestation

Artificial and natural regeneration schemes are dependent on current stand cover type and desired future cover type. The following provides a general overview of how we approach these stands, however some deviation may be expected on an individual basis.

In much of our pine forest, where we are either replacing a stand with the same species or replacing to a different pine species, our plan includes artificial planting. In our hardwood forests, we typically allow for natural regeneration following a rotational harvest. In mixed pine/hardwood stands with a significant pine component or site conditions favorable for pine, we may use artificial regeneration to convert the stand to a more desirable composition. When selecting species to plant, foresters ensure that species isn't exotic and is appropriate for the site.

Planting is conducted generally in the late fall through early winter, in year one or two after final harvest. Planting is conducted by contract using trained tree planters, through a bid proposal program as required by SC state law. Monitoring of the planting operation is conducted to ensure proper spacing and planting depth are maintained, as outline in clear language in the planting contract.

To determine adequate stocking after planting, we sample 0.5% of each stand through seedling survival checks in early spring, one-year following planting. If survival is below 40% or stand condition is poor, we replant the entire stand or do an addition survival check the next year. If survival is below 60% or stand condition is poor or moderate/poor, we replant entire stand if mortality is equally distributed or in plant if mortality is localized or consider chemical release or consider prescribe burn for release or do an addition survival check the next year. If survival is below 90% or stand condition is moderate/poor to moderate, we would consider in planting if mortality is localized or chemical release or prescribe burn for release. If survival is above 90% or stand condition is moderate to acceptable, we would consider chemical release or prescribe burn for release or no action.

In stands where natural regeneration is chosen, spot sampling is conducted within the first 5 years to determine stand composition and stocking. Natural regeneration is the favorable method to regenerate hardwood stands at WTFSF due to flooding regimes and expenses associated with artificial regeneration.

B. Use of Chemicals

Wee Tee State Forest (WTFSF) primary use of chemicals consist of site preparation for pine planting, pine release after planting, and understory control. Almost all of the chemicals used in forested stands is done through contract labor, through a bid proposal process as required by SC state law. Chemicals used and rates applied are chosen based on the least amount of chemical required to achieve management objectives and label intent and requirements.

WTFSF is aware of and does not use the chemicals listed under the World Health Organization (WHO) type 1A and type 1B and the Stockholm Convention on Persistent Organic Pollutants. Reference material can be found on the agency employee website under State Forest.

We consider integrated pest management as part of our overall management of WTFSF, through promoting healthy and vigorous stands of timber. By conducting thinnings in timely manners, stands are reduced to include the strongest and healthiest trees to mature. Other factors involved are selecting appropriate species and seedling varieties depending on site specifications. We are continuously taking training to keep up with new and evolving pest. Our agency insect and disease personnel conduct pest trapping to determine possibilities of outbreaks. We use our inventory system to monitor stands for potential problems that may arise.

WTSF currently has one person licensed as a pesticide applicator. This person keeps up with in-house use and contractor use of pesticides to insure proper use of pesticides.

C. Protection and Maintenance of Forest and Soil Productivity

WTSF is situated on mostly alluvial soils. We outline in all contracted harvesting operations that Best Management Practices (BMPs) be adhered to, skid rows and decks be minimized in size and impact to the site, and field personnel monitoring the harvest and address any violations or areas of concerns as they occur. A performance bond is part of the contract to ensure all post-harvest clean-up work is conducted. We also notify and request agency BMP foresters to preform BMP courtesy exams on all harvesting operations.

We work with timber contractors to allow for seasonal access to timber to mitigate any problems associated with regular and infrequent flooding. In some cases, we may provide for extensions to our harvest contracts in an effort to minimize this impact.

We require that the site be left to specific conditions that are beneficial to subsequent harvesting, but since we use hand crews to artificially plant, we allow for retention of large woody debris and tops. Site preparation may include prescribed fire application to minimize the obstruction this harvesting debris may pose.

D. Damaging Agents

We consider forest health as many-faceted. Impacts to forest health are many, and this sections addresses first our approach to natural disasters and forest management, the subsequent risks from more common health issues, such as insect and disease outbreaks.

There are several natural disasters that may affect our state forest lands, though primarily wildfires, flooding events and hurricanes/wind storms are considered the most likely. Indeed, the impacts of these types of events have been recurring and constitute a significant factor in how many of our management operations can take place.

Wildfire/Prescribe Fire

Fire is a natural part of the forest ecosystem across much of the state forest system. We maintain a program of prescribed fire management, both to enhance the condition of the forest stands while also serving to mitigate wildfire risk through forest fuels reduction. All fire line employees go through extensive, continually training to be allowed to participate in prescribe burning. Along with the training, annually we do fire line refreshers and moderate level pack testing to remain fire line certified.

Forest personnel use prescribed fire in many instances: site preparation, fuels reductions, timber stand improvement, aesthetics, and improved habitat through species management. Our personnel are trained and licensed through the agency, and we maintain a high level of fire preparedness. All burns are overseen by a certified prescribe fire manager and documentation such as burn plans and weather outputs are maintained, as documentation of objectives met.

However, periods of time exist where the risk of uncontrolled wildfire on State Lands is high. In such cases, the South Carolina Forestry Commission (SCFC), being recognized as the agency with authority over containing and suppressing all wildfire on both State and private lands, is readily equipped to address fires on WTSF by trained personnel.

Flooding

With bottomland forest comprising the majority of forestland, flooding is frequent and primarily impacts access. On a less frequent return interval, large-scale flooding events have been known to inundate almost all of our bottomland hardwoods. Long duration flooding has been known to increase tree mortality in susceptible species, and thus we consider flooding as a primary driver of species composition in these riparian forests. Access during these events is extremely limited, and often considerable road improvements are required post-flooding. Timber harvest activities in our bottomland hardwood forests are generally limited to regeneration harvests potentially up to 100 acres in size. Adjacency restrictions are adhered to as described in our management section, and the stand is allowed to naturally regenerate. When needed, buffer strips are used to protect our riparian zone forest, and some thinning may be conducted in these stands as needed. Thinning is done in accordance to BMPs, and help to maintain a healthy forest while providing some addition revenue.

Hurricanes

While small-scale wind events occur fairly frequently across the forest, we consider the damages and management implications to be generally small and can be addressed on an individual basis. Large-scale wind events, primarily hurricanes, are an inevitability in the Southeastern Coastal United States.

Due to the close proximity to the coastal area, damage from hurricanes at WTSF are considered to be high-risk, and potentially forest-wide replacement events. Through thinning operations, we maintain stands with adequate spacing which reduces wind-throw susceptibility, however this is only applicable to our upland pine stands. In our bottomland hardwood forest, being in a poor condition partially as a result of high-grading, there exists a greater risk of damage from high winds to existing standing timber. Evidence of damage to the existing upper canopy of the forest is widespread, and believed to have stemmed from the effects of Hurricane Hugo. In such an event, we shall immediately develop plans to salvage log any areas of the forest that are accessible. In the rare occurrence of a catastrophic wind

event, the Agency may have to develop a new short-term management strategy for WTSF to better address concerns at that time.

As a part of the states' Incident Management Team (IMT), we have an enhanced ability to address the immediate effects of a hurricane event. Through training, maintenance, and readiness planning, we can open roads, provide access, and generally address user safety immediately after an incident.

Ice Storms

The risk of severe ice storms in the Coastal region of South Carolina is limited, but does occur on an irregular cycle. Salvage logging will be performed, where possible, in the event of impact on any portion of the forest, primarily in the upland pine stands where damage would be more likely to occur.

Insects and Disease Risks

We consider active forest management, and maintenance of stands in a healthy and vigorous growing condition, as the most important approach to reducing impacts from insects and disease. Additionally, regular prescribed fire is used to promote forest health. Our location in coastal South Carolina is also favorable for reduced planting risks from several species of insects. Still, we try to monitor our forest and address these risks on an as-needed basis.

Some monitoring of the state forest is conducted as part of state-wide initiatives, but we generally address areas of concern as they develop. Where possible, we minimize the impact or spread of the outbreak through harvesting, a successful and recommended approach to some insect control. All such activities are incorporated into the planned harvest activity, and updates made to stand inventory as required.

Our most important data collected for forest health is our forest inventory data, used to determine the timing of harvest operations. This data focuses on standard metrics needed to develop growth and yield models, including trees per acre, basal area, species, individual trees measurements of diameter at breast height, stopper height (height to first defect), and total height. If no defect is found, we use total tree height to develop volume estimates.

Other types of assessments that may apply include regional studies conducted by our agency's insect and disease laboratory, which monitors for outbreaks and insect population measures, and general day-to-day assessments by on-site field personnel.

As previously discussed, the South Carolina Forestry Commission (SCFC) is the lead agency used to address wildfire suppression in the state. This designation provides us with ample resources and training to maintain an active prescribed fire management program.

E. Improved Planting Stock

WTSF utilizes improved planting stock of loblolly pine. Genetically improved seedlings are purchased from the Arborgen, Taylor nursery, which is in a contract with the SCFC. In-house tree improvement staff are consulted to determine adequate genetic selection. The SCFC is a part of the South Eastern Tree Improvement Co-op, run by North Carolina State (NCST).

3. Protection and Maintenance of Water Quality

A. Water Quality and State BMP's

The South Carolina Forestry Commission (SCFC) is the lead agency in South Carolina in designing, interpreting, monitoring, and updating forestry best management practices (BMPs) that protect water quality and conserve site productivity. BMP are science-based forest management practices, developed pursuant to federal water quality legislation, that minimize or prevent nonpoint source water pollution from forestry operations and give forest landowners and the forestry community guidelines to follow in practicing good stewardship on our valuable forestland. BMP implementation protects the quality of our drinking water and helps sustain the productivity of our forests for future use.

As part of the SCFC, the state forests lands, including Wee Tee State Forest (WTSF), will serve as models for BMP implementation. They should meet or exceed all established BMPs, all applicable state water quality laws, and the requirements of the Clean Water Act for forestland. State forests will make all efforts necessary to ensure that there are no negative impacts to water quality or site productivity from forestry operations (i.e., forest road construction, timber harvesting, site preparation, reforestation, prescribed burning, pesticide application, fertilization, or minor drainage) on their lands.

In addition, all state forest employees involved in the supervision of forestry operations will be required to have appropriate BMP training (i.e. Timber Operations Professional (TOP) or equivalent), and all contractors operating on state forests will be required to have appropriate BMP training (i.e. TOP or equivalent) and will be responsible for BMP compliance on their work site. State forests will include this requirement in all bid invitations and contracts.

We address the management of riparian areas at the implementation of the harvest activity, and thus expect a reduction of harvest acreage in areas that have water quality or riparian concerns. All areas are managed in complete accordance with BMP recommendations, and frequently exceed the minimal distance requirements as we consider other factors, such as aesthetics or wildlife.

B. Water quality and Riparian Protection Programs

As previously mentioned, our agency is the lead in BMP monitoring for the state, and as such we include guidelines for maintaining their use in our timber sale contracts. Site conditions over much of the forest reduce the need for extensive road and landing design, however in areas where the concern exists our staff works closely with harvest operators to best locate their decks and skid trails. Only our bottomland hardwood forest requires regular monitoring and access control, and we do so through regulation of forest gates that can prevent access during wet weather conditions.

Our GIS contains several hydrology layers, including streams and other water bodies, and these layers are used to identify areas of concern in stands before harvesting is conducted. Field foresters make on-the-ground assessments for BMP use, and design stand boundaries in accordance. In cases where there is concern with BMP adherence or rules, we use our agency personnel in charge of BMP monitoring to assist in making management decisions.

Our harvest contracts requires compliance with BMP use, and also the inclusion of a performance bond to promote BMP use or pay for remediation work, as needed. We also request a courtesy BMP exam be done on all of our harvest contracts.

WTSF address wet weather events through contracts and working relationships with loggers and other contractors to maintain water quality. All contractors are to adhere to BMP guidelines. The forest director or his representative have the right to stop any ongoing work that may cause a water quality issue. All logging operations are subject to a courtesy exam by a BMP forester with the SCFC. WTSF can also withhold some or all of a logger's performance bond. WTSF foresters and technicians perform activity maintenance checks weekly on all forest management jobs.

4. Conservation of Biological Diversity

A. Biological Diversity

Our harvest activity considers the protection of critical habitats, and protection of any threatened and endangered species where presently known or as encountered. An area of identified critical habitat is present on the forest, and its protection and preservation is considered a critical long-term goal of our forest management. Wee Tee State Forest (WTSF) is aware of South Carolina's Statewide Forest Resource Assessment and Strategy developed by the South Carolina Forestry Commission (SCFC) and the SC Department of Natural Resources (SCDNR) State Wildlife Action Plan (SWAP). We also utilize the SC Nature Heritage information.

Much diversity is present, and our current management approach, which includes timber harvesting as well as providing for recreation and wildlife management, adequately provides for these species, habitats, and ecological communities.

WTFS contains a wide range of habitats including diversity within stands and across the landscape. This mix of forest types provides excellent habitat for many wildlife species, both game and non-game. Many forest management activities are beneficial to game species of wildlife. Practices such as thinning, prescribed burning, planting beneficial tree species, and supplemental wildlife food plots encourage a variety of game species. White-tailed deer, bobwhite quail, mourning dove, and eastern wild turkey are the most prevalent game species in our forests. Other species, including rabbit, gray squirrel, fox squirrel, and waterfowl are also present. The streams and ponds on state forests contain excellent fishing opportunities.

WTFS is enrolled in the SCDNRs Wildlife Management Area (WMA) program, which allows public hunting opportunities. Through this cooperative agreement, SCDNR monitors the health of game species and provides recommendations and funding to maintain and increase populations. Forest management activities should be planned to maximize the benefits to game species by considering appropriate timing of an activity, size of the affected area, and spatial arrangement.

Non-game wildlife species play an important role in management planning and prescriptions on state forests. Threatened and endangered wildlife species are considered when forest management activities take place. Endangered species populations are managed with input from SCDNR and the US Fish & Wildlife Service (USFWS), utilizing appropriate habitat management measures to increase and maintain populations. Where sensitive species are known to occur, particular concern should be given to reducing fragmentation of habitat, maintaining and creating additional high-quality habitat, and complying with the Endangered Species Act.

As part of the WMA program hunting regulations, dates and times, and seasonal availability are determined in cooperation with SCDNR to maintain a healthy forest and wildlife community.

B. Threatened and Endangered Species, Forests with Exceptional Conservation Value, Forest of Recognized Importance, and Old Growth

As we implement our harvest activity and develop site-specific plans for product removal, particularly adjacent to areas of concern, we inspect for presence of species and make changes to our long-term plans accordingly. Additionally, we request in our harvest contract that operators also monitor for presence of species, and notify us if any species of concern are located.

According to SCDNR Heritage Preserve data as of 3/31/2022, two G2 species were recognized as once occurring in the vicinity of WTFS. These two occurrences

included Florida Manatee (2012) and Marl Spleenwort/Carolina Spleenwort/Wagner's Spleenwort/ Morzenti's Spleenwort (2001). Other Species of interest by federal and state protection include Shortnose Sturgeon (2019), Wood Stork (1996), Red Cockaded Woodpecker (2018), and Rafinesque's Big-eared Bat (2012). In addition, the Anhinga and the Great Blue Heron are listed as being part of the Federal Migratory Bird Treaty Act. WTSF is not aware of any G1 or G2 species that currently exists within our boundaries; therefore, we are not considered a forests with exceptional conservation values (FECV).

As a representative of unique values associated with exceptional ecological, social, cultural and biological conservation, WTSF considers itself to be a forest of recognized importance (FORI). At the landscape level, WTSF is one of the larger landowners in the area and one of a small few that are open to daily public activities. WTSF consist of 12,750 acres of bottomland hardwood adjacent to the Santee River, several cemeteries exists, Native American mittens are known to be located on the forest, Santee River focus area, Ducks Unlimited, etc. All WTSF was purchased through different funding venues that contain a great deal of conservation easements through The Nature Conservatory (TNC), South Carolina Conservation Bank (SCCB), Open Space Institute Land Trust Inc (OSILT) and the US Fish and Wildlife Service (USFWS). WTSF is also managed with overarching conservation guidance from the Forest Legacy Program and the North American Wetlands Conservation Act. WTSF is adjacent to the Francis Marion National Forest owned and operated by the US Forest Service (USFS).

Our active forest management does not identify old growth conservation as a primary objective. However, in areas of limited access, within riparian areas, swamps, and other sites, we allow for old growth conditions to remain or develop. Old growth conditions vary due to cover type, soil type, aspect, and other site specific conditions, therefore the presence of these conditions is determined on a site-by-site basis. As a self-supporting agency, we often are not able to increase the rotation age of stands to that which resembles old growth conditions due to revenue needs.

C. Ecologically Important Sites

We utilize the SCDNR natural heritage species data to look for and identify critical species and habitats on the forest. Some of the critical habitat and ecological communities identified in the natural heritage data to possible exist at WTSF are Atlantic sturgeon, mixed herbs forest, floodplain forest, and tupelo gum swamp. We also are aware of the State Historic Preservation Office (SHPO). The University of South Carolina (UofSC) has been utilized in the past for expertise on certain areas found to have importance. Data related to these critical sites is maintained in GIS system, and is available by request-only, so as to discourage site degradation from public access.

D. Research, Science, Technology, Field Experience Used to Contribute to Biological Diversity

WTFSF collaborates with Universities, Colleges, other state and federal entities and reputable organizations to provide information, time and assistance for research opportunities that can provide for better management of forest resources. WTFSF utilizes research and scientific data to manage for biological diversity across its boundaries and landscape. Research request are captured through our special use permit, where individuals submit areas of interest for approval by WTFSF. WTFSF requires that these researchers submit findings and results of studies. Other types of biological diversity inventories are conducted on a consistent basis by staff and partners.

5. Management of Visual Quality and Recreational Benefits

A. Impact of Harvesting on Visual Quality

Our visual constraints in harvesting are many. We limit harvest size, and manage for timing of harvest activity, to prevent large non-forested openings. We may leave aesthetic buffers along water ways. We have adapted our harvest sizes and goals, targeting smaller acreage blocks, with several smaller openings rather than one large opening.

We work with our timber contractors and buyers to allow them to install decks and skid rows where best meets their needs. Due to the remoteness of most of our forest lands, we do not generally consider the location of the deck a critical aesthetic concern, however we do work closely to minimize the size of the deck, any debris piles that may be left behind, and ensure that no litter or waste associated with the contractor are left on site. Enforcement of these rules is in compliance with the performance bond inclusion on the timber contract.

B. Clearcut Harvest

WTFSF limits rotational harvest to maximum of 100 acres in total size. This constraint is taken into account through on the ground scouting. By limiting all rotational harvest to a max of 100 acres or less in size, our average rotational harvest size will not exceed the sustainable forestry initiative (SFI) standard of 120 acre average.

C. Green-up Requirement

WTFSF requires a green-up of 5 feet tall or 3 years, before an adjacent stand can be rotationally harvested. This constraint is taken into account through on the ground personnel.

D. Recreation

The goal of the South Carolina Forestry Commission (SCFC) is to provide outdoor recreational opportunities on the state forests that are compatible with forest

management activities. The SCFC will strive to accommodate the needs of the various recreational user groups that enjoy the state forests. However, as is the case for forest management activities, management of recreational activities will not take precedence over the protection and enhancement of the environment. In addition, management for the sustainability of forest products will always take priority over recreation and other forest management activities.

There are a variety of recreational opportunities in South Carolina's state forests. In fact, the opportunities are as diverse as the forests themselves. There is hiking and fishing and hunting opportunities. Other activities include boating, geocaching, picnicking, and bird watching to name a few. WTSF has historically been enrolled in the Wildlife Management Area (WMA) program, which is regulated by the SC Department of Natural Resources (SCDNR). Therefore, hunting and fishing on this state forest require applicable licenses and a WMA permit and is allowed only in designated areas during the appropriate seasons. For more detailed information on hunting and fishing activities, refer to the annual SCDNR hunting and fishing regulations.

It is through sound multiple-use forest management that the SCFC plans to maintain the integrity of and enhance the state forest environment while providing for future natural resource uses, including recreation.

6. Protection of Special Sites

A. Identify, Manage, and Protect Special Sites

The South Carolina Forestry Commission (SCFC) is aware of many special sites existing across our state forest system lands, and continues to maintain, preserve, and enhance these sites on an individual basis. Our regulations for all state forest lands clearly forbids metal detecting, collection of artifacts of any kind, digging on or damaging forest lands, or collection of any vegetative material without the express consent of the agency.

The location of some of these sites, specifically existing structures and cemeteries, are made available to the public with varying levels of access. However, many of the historical sites are considered sensitive, and information regarding their location is kept within the agency and made available on an individual basis.

Wee Tee State Forest (WTSF) maintains a GIS layer that includes special sites that exist on the forest. As sites are discovered, they are added to the GIS layer. This GIS data is only maintained in-house.

Examples of special sites include but are not limited to historic home sites, cemeteries, unique landforms, rare plant locations, archeological sites, unique habitats, and other historically significant sites.

7. Efficient Use of Forest Resources

A. Forest Harvesting Technology, In-woods manufacturing Process, Practices to Minimize Waste, and Efficient Utilization of Harvested Trees

Wee Tee State Forest (WTSF) adheres to many principles of sustainable forestry and best use of forest products. All harvests conducted must be done in strict accordance with best management practices (BMP) guidelines, and we monitor harvesting operations to ensure compliance.

Certain considerations are taken into account when developing how our harvest operations will take place, which is applicable across all stands. In cases of low quality timber, or stands with poor species composition, we try to employ improvement cuts, where possible. These harvests aim to remove undesirable stems and improve the existing stand or the condition of the stand for the development of the next stand, if a seed-tree cut is employed. In stands where timber is of low-quality and not desirable for harvest, we require all timber to be cut to a minimum DBH of 5 inches, and left on the ground to better prepare the site for planting. Since harvest values are ultimately derived through an open-bid process as required by law, we have limited ability to force the buyer to utilize some of the lesser quality timber on-site. Instead, we hope that through the bid process our winning bid maximize profit margins based on the greatest utilization of the timber present.

We inspect post-harvest areas to ensure that site conditions outlined in each harvest contract are met. This includes the treatment of slash and debris, reductions in piles, and that all stems above given diameter are removed. This ensure the site is better prepared for harvesting, burning, and/or receptive to seed dispersal from leave trees.

The South Carolina Forestry Commission (SCFC) and state forest lands base our volume estimates on common diameter and height specifications. However, we do not translate these measurements into required log utilization specifications. Traditionally, we have allowed the harvest contractor to determine the optimal specifications for merchandizing. Similarly, as our timber harvesting is done under contract, we have not tried to impose restrictions on how that timber is merchandized, or developed any incentives for the better utilization of off-grade wood.

Harvest operation sites are only monitored in relation to conditions as outlined in each harvest contract, which includes site conditions post-harvest, relative to slash, debris, and related factors. Our performance bond, included in each contract is used to ensure these conditions are met. However, since product utilization has not become a component of our stumpage marketing, we do not have any current assessments in place for that over site.

The SCFC is a voting member of the South Carolina Sustainable Forestry Initiative (SFI) state implementation committee. This committee is charged with maintaining, overseeing, and improving the SFI program through various programs including logger training, teacher tours, children programs, landowner meetings.

8. Recognize and Respect Indigenous Peoples' Rights

A. Recognize and Respect Indigenous Peoples' Rights

Currently no state or federally indigenous peoples have claims relating to South Carolina Forestry Commission (SCFC) state forest lands. As inventories and management activities are conducted should possible sites be discovered state forest manager and state lands coordinator are to be made aware. State Historic Preservation Office (SHPO), State Commission of Minority affairs, and state archeologist will be consulted.

B. Confer with Affected Indigenous Peoples

SCFC state forest manager and state lands coordinator shall confer with affected indigenous peoples with respect to sustainable forest management practices state forest manager and state lands coordinator shall confer with affected indigenous peoples seeking to:

- a. understand and respect traditional forest-related knowledge;
- b. identify and protect spiritually, historically, or culturally important sites;
- c. address the use of non-timber forest products of value to Indigenous Peoples
- d. respond to Indigenous Peoples' inquiries and concerns received.

C. Respond to local Indigenous Peoples on Private Lands

Will respond to inquiries and concerns of Indigenous People on Private lands as requested.

9. Climate Smart Forestry

A. Identify and Address Risk to Forest and Forest Operations

According to Climate Central, the top risks for South Carolina (SC) is extreme heat, increased wildfires, inland flooding and coastal flooding. Other sources, such as Southern Alliance for Clean Energy, list increasing drought and storm damage as significant risk factors tied to climate change. While the United States Environmental Protection Agency (EPA) states that SC's temperature has increased by one-half to one degree (F) over the last century and sea levels are rising one to one-and-a-half inches every decade. The EPA also says higher temperatures and changes in rainfall are unlikely to substantially reduce forest

cover in SC. SC could possibly see a shift in composition of forest cover type over time if climate change increases at current rates. The EPA list an additional risk to SC forest as a cause of heavy rainfall and drought conditions. This additional risk is an increase in insect and disease outbreaks.

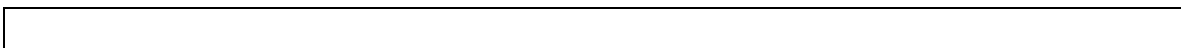
Wee Tee State Forest (WTSF) cannot directly alter the potential adverse effects of climate change. However, there are things that we can and are doing to combat effects of climate change. One way WTSF is addressing the potential risk of climate change is through our continual inventory program. Continually inventorying stands and recalculating standing volume numbers allows us to have a continuous update of data to observe short-term and long-term changes in timber growth. This updated inventory data is then used to update harvest model runs to maximize sustainability and provide a constant timber revenue stream. Other ways we can combat effects of climate change is by thinning stands when appropriate to minimize overcrowding, prescribe burning stands to reduce the build-up of fuels, and monitoring for overall forest health.

WTSF overall management aligns with southeast regional strategies to mitigate climate change. The *Southeast Regional Climate Hub Assessment of Climate Change Vulnerability and Adaptation and Mitigation Strategies* suggest strategies to combat climate change as diversity in seedling genetics, periodic thinning to reduce overcrowding, prescribe burning to reduce wildfire threat, harvesting rotations, site preparation, etc.

B. Effects Associated with Forest Operations

WTSF is aware of and pressuring opportunities to sequester carbon while growing and harvesting timber on a sustainable basis. WTSF has submitted acreage to Natural Capital Exchange (NCX) for evaluation of selling forest carbon. NCX approach is based on science from Intergovernmental Panel on Climate Change (IPCC). NCX strategy is to mitigate carbon release into the atmosphere by extending the lifecycle of a forest. Other ways that WTSF works to cut down on carbon released to the atmosphere is through biomass harvest. Biomass or fuel chip harvest are not very economically beneficial to WTSF but they do benefit in other ways. By removing small under brush, WTSF is cutting down on the amount of carbon released into the atmosphere during beneficial prescribe burns and providing a resource for alternative fuel. Biomass harvest are sold to loggers which in turn end up at facilities to be burn for electricity, reducing the amount of need for coal based electricity. This is a small but impactful contribution to the overall climate change.

10. Fire Resilience and Awareness



A. Limit Susceptibility to Undesirable Impacts of Wildfire, Promote Healthy and Resilient Forest Conditions, and Support Restoration of Forest Damaged by Wildfire

Wee Tee State Forest (WTSF) is part of a division of the South Carolina Forestry Commission (SCFC) and the SCFC is the lead agency on wildfire in the state of SC. SCFC staff is trained to wildland firefighter standards that allow for in state and out of state response to wildfires. The SCFC employees law enforcement officers and firefighters that respond to uncontrolled wildfire for suppression. SCFC employees also provide wildland fire prevention material to the public. WTSF staff assist regional personnel in initial and extended attack of wildfires throughout the state. WTSF personnel also respond to request for wildfire assistance throughout the nation in various capacities from overhead to firefighters.

Other ways that WTSF prevents damage to timber stands is through sound forest management. Timber stands are routinely thinned to eliminate overcrowding and to reduce fuel loads. A thinned stand has a lot less potential of damage to trees than an unthinned stand due to open crown space allowing heat to escape. Thinning of stands also reduce the chance of infestation of insect and disease, which could cause death and mortality to stands. Stands are regularly prescribed burned to reduce fuel loads.

In cases where wildfires exist on the state forest, WTSF personnel will monitor areas for adverse impacts. If an area is damaged beyond recovery, either a salvage harvest is set up or a plan is put into place to reforest the area. Each incident is evaluated on a case by case basis. Fire breaks are always checked for proper best management practice when it comes to water quality. If actions are taken that negatively affect the

B. Raise Awareness of Benefits of Fire Management and Minimize Undesirable Impacts of Wildfire

The SCFC has many different programs to promote the benefits of prescribed burning and to deter wildfire. The agency has published materials such as the Think Before you Burn brochure, which includes a guide to safe burning along with laws and precaution numbers required by law for outdoor burning. Other programs include Firewise USA, which is about wildland-urban interface burning. The SCFC has 3 employees that their sole jobs are dedicated to informing the public of potential wildfire issues within the wildland-urban interface.

Each year the SCFC has the month of March dedicated as fire prevention month by the state general assembly. During the month of March, SCFC employees pass out information to the public about wildfire potential and prescribed fire benefits. Promotional materials such as flyers, rulers, pamphlets, pencils, book covers, etc. are used to get the word out. Electronic materials such as television commercials, YouTube videos, and social media material are also distributed. Recently the agency has partnered with the national campaign of cancel wildfires in SC.

11. Legal and Regulatory Compliance

A. Forestry Related Social and Environmental Laws and Regulations

The South Carolina Forestry Commission (SCFC) and Wee Tee State Forest (WTSF) in particular is committed to complying with all social laws, including but not limited to those covering civil rights, equal employment opportunities, anti-discrimination and anti-harassment measures, workers' compensation, indigenous peoples' rights, communities' right to know, prevailing wages, workers' right to organize and occupational health and safety.

Forest personnel conduct post-harvest inspection, as well as site monitoring during harvesting as feasible, and address any issues as they arise. Site inspection includes BMP considerations as well as general site conditions following operator egress. In addition, we maintain an open line of communication with our contractors to allow them the opportunity to contact us as they encounter situations that may conflict with BMP guidelines, their contractual obligations, or other issues. Further opportunity is provided during post-harvest evaluation and any required mitigation work, which is terminated with the release of the aforementioned performance bond.

Our agency personnel are made aware of all social laws, and rights of workers at time of hiring. In addition, our agency has a defined grievance policy for redress of conflicts as they may arise. All information required relevant to worker's rights is posted in a public area.

For our contractors, we include language in our contracts that requires the following is ensured for their employees:

- Workers compensation is provided to all employees
- Workers are provided with liability insurance
- Contractor will only employ legally allowed workers
- Contractor will abide by all federal, state, and local laws

B. Comply with all Applicable Social Laws

Several components are involved to ensure staff and contractors have access to relevant laws and regulations. Our forest personnel are provided with training in BMPS, and work closely with contractors through evaluation of contract obligations. Our contractors themselves are required to be TOP Logger certified in the case of timber operations, and a certified tree planter when hired for planting operations. Adherence to BMPs and other provisions is required within the contract, with performance bond limits to ensure operators remain within those limitations. BMP guidelines and other relevant information is available through many venues, including headquarters of the Forest operations.

The state forest system retains a lawyer to look over contracts and any special issues that may arise, as needed.

12. Forestry Research, Science and Technology

A. Provide In-Kind Support or Funding for Forest Research

As part of the South Carolina Forestry Commission (SCFC) we are associated with many research opportunities, with the forest providing sites, data, and manpower when requested. Wee Tee State Forest (WTSF) uses a special use permitting system to keep track of requested use of lands for research.

The agency has an insects and disease lab, which monitors for different activities across the state, as well as frequently on the state forest. This data is used both in-house and cooperatively with other state and federal agencies. The work conducted by this lab helps to identify threats and concerns associated with insect and disease outbreaks, and better prepares us to address these events as they occur.

The agency maintains its own tree improvement operations. Through association with our nurseries, we provide areas for research plantings, actively use nursery stock within our own operations, and serve as a benchmark for tree improvement performance over time.

In some cases, our collective state forest system has provided land and data as outside support for other research requests, including chemical applications, tree improvement studies, biomass plantations and more.

Our agency also serves as the liaison for the conductance of forest inventory and analysis (FIA) for the state of South Carolina. Our agency employees conduct all plot sampling, with coordinated reporting of results which is used both internally and by the United States Forest Service (USFS).

B. Develop, Contribute to, or Use Analyses in Support of Sustainable Forestry

Our general association with the South Carolina Department of Natural Resources (SCDNR), and through our direct participation of most of our state forests as a wildlife management area (WMA), much of the work performed on biological diversity and wildlife management has fallen under their purview. We do provide work together to collect data on population surveys.

We consider our role more associated with providing access and land for research plots where possible as our method of supporting forest research, rather than through direct financial contributions.

Our agency has also been the state compliance monitor for Best Management Practices (BMPs), have generated annual reports of compliance for many years,

and multi-year analysis of compliance in white papers and peer-reviewed journal publications.

The SCFC and state forest personnel, served as lead reporters and committee researchers in a comprehensive analysis of the state, finalized in the South Carolina State Forest Resource Assessment (Forest Action Plan).

The SCFC and the state forest system are a voting member of the SFI State Implementation Committee (SIC). Through this membership we have the power to vote on issues that will impact sustainability of forest and forest products in SC.

The SCFC is the lead instructor for the wood magic forest fair, the South Carolina teacher's tour, project learning tree, etc. We are also highly involved in the implementation of the Top Logger program and monitor logging operations through state BMPs.

13. Training and Education

A. Appropriate Training of Personnel and Contractors

The South Carolina Forestry Commission (SCFC) and Wee Tee State Forest (WTSF) are devoted to communicating our commitment to the Sustainable Forestry Initiative (SFI) forest management standards through an open letter from our state forester and through a letter sent to all our contractors of our involvement with the SFI standards. These letters can be found on our website.

A training matrix has been developed and utilized to determine the training and amount of training required for each of the different roles of employees on the state forest. Additionally The Agency has implemented a program to provide salary increases as incentive to participate in training to build Additional Skills and Knowledge (A.S.K Raises).

Contractors are required to have sufficient training in there related field of professionalism. Examples included loggers must be TOP Logger certified, Foresters must be state registered, Tree planters must be certified through the SCFC, pesticide applicators must be licensed, etc.

B. Foster Improvement in the Professionalism of Wood Producers

Through our participation in the SC Implementation committee, we get the opportunity to work with cooperatives to create specialized training to improve forest operations. Some of the trainings include state best management practices, Top Logger certifications, educational programs, etc.

14. Community Involvement in the Practice of Sustainable Forestry

A. Landowner Cooperative Programs

The agency, and forest personnel, provide partial support, mostly in the terms of personnel time, for the following SIC programs.

- Project Learning Tree
- Wood Magic Forest Fair
- Teachers Tour

These different programs require different assistance. In previous years, the State Forest system at large has served as the location and facility support for all of these events. Personnel have provided event support, and will continue do to so. Lastly, some personnel work with these programs as part of their day to day functions, providing, at least indirectly, some financial support in terms of staffing.

The development and distribution of educational material to forest landowners has, in years past, fallen under the supervision and direction of other entities within the Agency. Still we provide educational materials on site at each State Forest, and also participate in a leadership role in landowner and educational tours on our lands.

From an agency perspective, conservation of managed forests has been addressed through cost-share programs. Under our State Forest system specifically, we have provided facilities and program support, although generally on an as-needed basis.

WTSF was obtained using different conservation programs. The original portion of WTSF was acquired in 2003 from the Hollingsworth Funds, Inc. with funds provided through the Forest Legacy Program and the North American Wetlands Conservation Act. Other conservation programs that WTSF has utilized in obtaining land South Carolina Conservation bank, Ducks Unlimited, OSILT, SC TNC, National Coastal Wetland Conservation Grant program, and the support and funding from the SC Conservation Bank, the Santee River Conservation Corridor

B. Public Outreach and Education

Our outreach participation, as previously described elsewhere, is through leadership and participation in the Wood Magic Forest Fair, Teacher's Tour, and Project Learning Tree programs.

Our public educational opportunities are many. Across the State Forest system, we participate in Future Farmers of America events, conduct field tours, provide training and educational opportunities to local schools, provide volunteer opportunities to various groups, and have developed or are in the process of developing self-guided tours. In addition, personnel frequently provide their

services, through speaking engagements and teaching opportunities, to many schools, groups, conferences, and other users on an annual or by request basis.

C. Stakeholder Concerns

There are many avenues through which public inquiries can be made and subsequent response actions taken. The Agency, and Forests alike, use interpersonal communications, social media, regular postal and email, and other avenues as they arise to take concerns and inquiries for our actions. These inquiries are then directed to the appropriate parties, researched, and then responded to in a timely fashion.

The Agency and State Forest system will address stakeholder concerns regarding apparent nonconforming practices on an individual basis.

15. Public Land Management Responsibilities

A. Public Land Planning and Management Processes

The state forest system is involved in land management planning in many venues. Following these guidelines, we continue to update and adapt our management plan specific for each state forest, which closely addresses their respective objectives and relative concerns. Finally, in concert with our management plans, a **harvest schedule model has** been developed, which supplies additional data for our Forest system to better meet its needs.

Contact with local stakeholders over forest management issues is provided through many relationships, associations, and previously mentioned venues, as described elsewhere. Various trail groups, riding associations, and other organizations have, over time, developed lines of communication with our forest personnel, from interpersonal to regular meetings, where concerns over respected issues can be brought forward, or addressed collectively. However, the state forest position has to this point, been to address concerns or requests on an as-needed basis, rather than seek out the inputs of any given group.

We address issues or events if and when they arise, making appropriate contact **with** stakeholders when necessary, and taken any corrective actions, as deemed appropriate.

16. Communications and Public Reporting

A. Summary Audit Report

Upon completion of our management plans tailored to the Sustainable Forestry Initiative (SFI) forest management standard, we shall submit our documents to the

certification body for auditing. These documents will be assessed for content, and congruence to the SFI Standard, and the results will be submitted to SFI Inc. for posting to an external website. We shall also maintain all records of our audits for certification or recertification on hand at our forestry commission headquarters in Columbia, SC, as well as each respective state forest. We shall also work towards developing a documentation library, to better facilitate the auditing process.

B. Annual Progress Reports

The State Lands Coordinator is responsible for SFI Standard adherence, and for collating data and preparing and submitting annual progress reports to SFI Inc. Reporting will be conducted in congruence with the SFI program.

17. Management Review and Continual Improvement

A. Review System

The agency and state forests in particular will use the following categories and associated criteria in the evaluation of the effectiveness of SFI programs and achieving continuous improvement in performance:

- a.** Improved effectiveness of management process
 - i. Operational improvements
 - ii. Streamlined management
 - iii. Improved review process to meet Standard
- b.** Realized increases in SFI certified wood and wood products
 - i. Enhanced revenue stream
 - ii. Increased participation of contractors
- c.** Improved recognition of our leadership or exemplary status in sustainable forest management
 - i. Increased request for SFI literature or information
 - ii. Increased appearance of Agency in relevant publications and literature
 - iii. Increased request for our participation in events or literature related to forest sustainability